The System Development Life Cycle

The Systems Analysis Phase

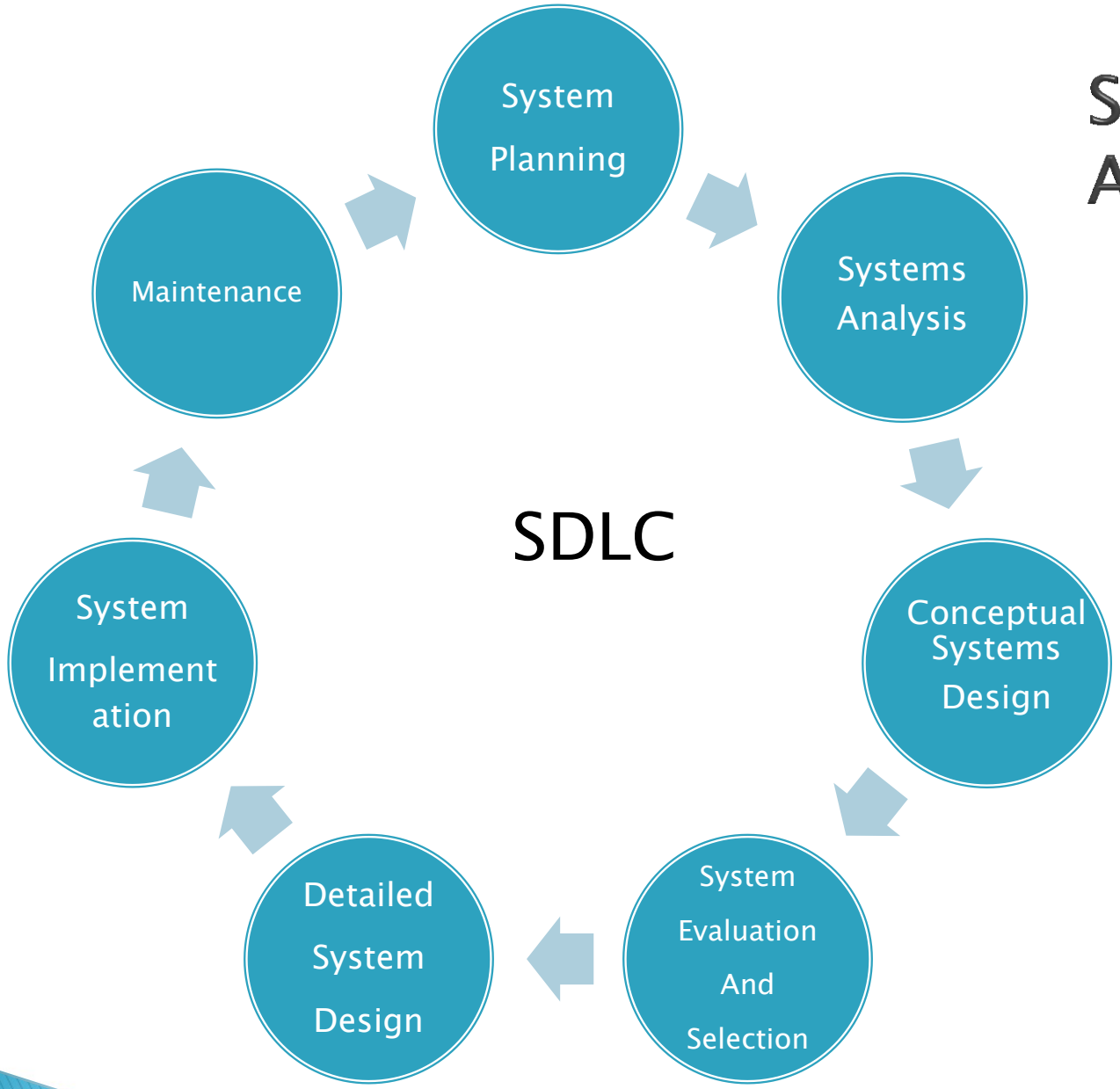
Objectives

- Relate the systems analysis phase to the other parts of the SDLC
- Discuss how the application of modern methodologies, modeling tools, and techniques helps to reduce consumption of system resources and increases the likelihood of successful systems development.
- State the reasons for defining systems scope and list three sources of study facts.

Objectives

- Describe the techniques used to gather study facts, especially to fill in gaps.
- Discuss the preparation and presentation of the Systems Analysis Report.
- List and discuss alternative outcomes of the system development phase

Systems Analysis



The Systems Analysis Phase

- Defines user requirements in detail, given specified time and budget constraints
- Successful System Analysis depends on
  - Comprehensive study facts
  - Techniques to gather the study facts
  - Complete user involvement
  - Modeling tools to analyze study facts
  - Interaction

System Scope / Study Facts

What are study facts?

The boundaries of a project, referred to as ***scope***, are discovered while analyzing the system.

Sources of study facts

1. The current system
   Could this be a bad idea?

2. Internal Sources
   Usually the most important source of information

3. External sources
   Fact checking, research, libraries

Methodologies used during the Systems Analysis Phase

Techniques for gathering study facts

1. Interviewing – formal, planned
2. Sampling – Reach conclusions from a population, appropriate when:
   - A complete count is not needed for a particular item
   - A complete count of the population is not practical or cost effective.
3. Observation – mostly of current system, find strengths, weaknesses; compare documented system from actual system.

Modeling tools used during the Systems Analysis Phase

- DFDs
- ERDs
- STDs
- Case Tools

- ERD/DB

- Example: 1

Systems Analysis Report

5 Major components

1. The reason for the report and the scope of the systems analysis. [Is the project going in the right direction?]
2. What major problems have been encountered. [Can they be solved?]
3. Definition and specifications of user requirements [including graphical representations]
4. Critical Assumptions [time, money, resources]
5. Objective recommendations

Outcomes of the System Development phase

- The system project is discontinued – the system will not/did not meet expectations
- The systems project will be postponed (for a variety of reasons)
- The analysis phase has identified new opportunities, and the project should go back to the planning phase to accommodate these discoveries
- The Systems Analysis Report is in line with expectations and the project remains on course.